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NEW SOVIET STEELS

SORMAYT ALLOYS -- Moscow, Stanki i Instrument, No 5, May 53

Sormayt is an alloy made of readily available materials: ferrochrome, ferromanganese, ferrosilicate, nickel, iron and cast iron scrap, activated coal, and flux (glass). The alloy has good wearability and is used in plating highly stressed machine tool parts.

Sormayt is generally smelted in high-quality, crucible-type induction furnaces equipped with acid linings.

There are two types of sormayt. Sormayt No 1 is a hypereutectic alloy, similar in structure to high-chromium-content stainless cast irons. It has no practical response to heat treatment. Sormayt No 2 is a hypoeutectic alloy differing from Sormayt No 1 in its smaller content of alloying constituents and carbon. Sormayt No 2 reacts to heat treatment; it may be hardened considerably. After annealing it may be machined as an untempered metal. Sormayt No 1 has poorer machineability. The hardness of Sormayt No 1 plate is from H_B-460 to H_B=601.

The chemical compositions of the alloys are:

Sormayt No 1: C 2.5-3.3%; Cr 25-31%; Ni 3.5%; Mn up to 1.5%; Si 2.8-4.2%; P up to 0.08%; S up to 0.08%; Fe remainder.

Sormayt No 2: C 1.5-2.0%; Cr 13.5-17.5%; Ni 1.3-2.5%; Mn up to 2.0%; Si 1.5-2.2%; P up to 0.07%; S up to 0.07%; Fe remainder.

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TITANIUM STEEL -- Moscow, Avtomobil'naya i Traktornaya Promyshlennost', No 4, Apr 53

New-grade steels with admixtures of titanium (15KhGT, 5KhGT, and others) have been developed at the Moscow Motor Vehicle Plant imeni Stalin. These steels are intended to replace molybdenum steels in automotive transmission gears and in stamping dies. Many of those responsible for developing these steels were awarded Stalin prizes in 1951.

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